

REMARKS/ARGUMENT

Claims 1-9 and 22-25 stand allowed.

The status of Claims 29-31 has not been set forth by the Examiner. Claims 29-31 were added in the Amendment dated December 7, 2005. There is no mention of these claims in the Office Action Summary or the Detailed Action mailed on February 23, 2006. Applicants respectfully request that these claims be allowed or a new action be sent out clarifying the status of these claims.

Claim 26 has been amended to conform with the Examiner's recommendation to overcome the 35 U.S.C. 112, second paragraph, rejection.

1) Applicants respectfully traverse the 35 U.S.C. 112, first paragraph, rejection of Claims 21 and 26. While the term "unmodified" in "... receiving unmodified the modulated RF signal" is not stated per se in the text of the specification, it is clearly set forth in Figure 2, which shows a signal path between the output of VCO 218 and the input of phase demodulator 208 in which there are no intervening elements that can "modify" the modulated RF signal output by VCO 218. As such, the application does in fact teach this limitation. Accordingly, the 35 U.S.C. 112, first paragraph, rejection is improper and must be withdrawn.

2) Claims 21 and 26 stand rejected under 35 U.S.C. 102(b) as being anticipated by McCune, Jr. et al. (5,5,952,895). Applicants respectfully traverse this rejection, as set forth below.

In order that the rejection of Claims 21 and 26 be sustainable, it is fundamental that “each and every element as set forth in the claim be found, either expressly or inherently described, in a single prior art reference.” Verdegall Bros. v. Union Oil Co. of California, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). See also, Richardson v. Suzuki Motor Co., 9 USPQ2d 1913, 1920 (Fed. Cir. 1989), where the court states, “The identical invention must be shown in as complete detail as is contained in the ... claim”.

Furthermore, “all words in a claim must be considered in judging the patentability of that claim against the prior art.” In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

Independent Claim 21, requires and positively recites, a digital modulator for use in a radio frequency transmitter, comprising: “a phase-lock-loop (PLL) loop producing as an output signal a modulated RF signal, wherein the phase lock loop (PLL) comprises a **loop filter coupling a phase/frequency detector to an oscillator**”, “a phase demodulator having an input port for **receiving unmodified the modulated RF signal** and having an output port for providing a phase information signal” and “a comparator having a first input port for receiving the phase information signal and having an output port for outputting an error signal.”

Independent Claim 26, as amended, requires and positively recites, a radio frequency (RF) modulator comprising: “a phase-lock-loop (PLL) including a loop filter and receiving as an input signal a modulation signal and producing as an output signal a modulated RF signal”, “first circuitry for **receiving unmodified the modulated RF signal** and outputting an error signal” and “second circuitry responsive to said error signal for controlling the amplitude of the modulation signal”.

In contrast, McCune discloses that loop filter 403 couples phase detector 401 to adder 413 – NOT to VCO 405. As such, McCune fails to teach or suggest, “a phase-lock-loop (PLL) loop producing as an output signal a modulated RF signal, wherein the phase lock loop (PLL) comprises a **loop filter coupling a phase/frequency detector to an oscillator**”, as required by Claim 21.

Further, McCune clearly shows that the signal output by VCO 405 is a modulated RF signal. That modulated RF signal is subsequently modified by synthesizer SYNTH 420 and the resulting MODIFIED modulated RF signal is then passed through low pass filter LPF, further modifying an already MODIFIED modulated RF signal, prior to reaching phase demodulator 419 (col. 3, lines 11-23). As such, McCune fails to teach or suggest, “a phase demodulator having an input port for **receiving unmodified the modulated RF signal** and having an output port for providing a phase information signal”, as required by Claim 21 OR, “first circuitry for **receiving unmodified the modulated RF signal** and outputting an error signal”, as required by Claim 26.

Further, there is no drawing figure or discussion in McCune’s detailed description of the preferred embodiments that shows or illustrates a connection between the output of VCO 405 and an the input of phase demodulator 419 in which the modulated RF signal output by 405 is NOT modified prior to reaching the input of phase demodulator 419. The 35 U.S.C. 102(b) rejection is improper and must be withdrawn since each and every element as set forth in Claims 21 and 26 cannot be found, either expressly or inherently described, in a single prior art reference, as is required by law.

In response to the Examiner’s comments on page 5, lines 8-10, Applicants agree with the Examiner that the signal at the output of VCO 405 in McCune is a

“modulated” signal. Applicants do not agree, however, with the Examiner’s further comments on lines 11-13 where the Examiner states that it is an “unmodified” modulated signal which is feedback to phase demodulator 419. The Examiner’s determination is not supported by Fig. 4 and McCune’s specification.

Applicants disagree with the Examiner’s determination on page 5, lines 13-15 that the invention illustrated in Applicants’ Figure 2 have the same drawings and explanation as McCune. In the invention illustrated in Applicants’ Figure 2, there is a direct path between the output of VCO 218 and the input of phase demodulator 208 – thus, the modulated signal output by VCO 218 is NOT modified prior to being input to phase demodulator 208. Not so in McCune (see Fig. 4).

Regarding the Examiner’s comments on page 5, lines 15-18, Applicants can only assume that McCune did not say his modulated signal was “unmodified” because in fact it is modified by synthesizer 420 and low pass filter LPF.

Applicants further disagree with the Examiner’s determination that “nowhere in the SPEC is the term “unmodified” used (page 5, lines 18-19)”. While “unmodified” is not set forth in the text of the detailed description, it is clearly set forth in Figure 2. As such, the teaching is disclosed in the specification.

Claims 27 and 28 depend (directly or indirectly) from Claim 26 and are allowable for the same reasons set forth above in support of the allowance of Claim 26.

3) Claims 21 and 26 stand rejected under 35 U.S.C. 102(b) as being anticipated by Parniere et al. (4,554,517). Applicants respectfully traverse this rejection, as set forth below.

In order that the rejection of Claims 21 and 26 be sustainable, it is fundamental that “each and every element as set forth in the claim be found, either expressly or inherently described, in a single prior art reference.” Verdegall Bros. v. Union Oil Co. of California, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). See also, Richardson v. Suzuki Motor Co., 9 USPQ2d 1913, 1920 (Fed. Cir. 1989), where the court states, “The identical invention must be shown in as complete detail as is contained in the ... claim”.

Furthermore, “all words in a claim must be considered in judging the patentability of that claim against the prior art.” In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

Independent Claim 21, requires and positively recites, a digital modulator for use in a radio frequency transmitter, comprising: “a phase-lock-loop (PLL) loop producing as an output signal a modulated RF signal, wherein the phase lock loop (PLL) comprises a **loop filter coupling a phase/frequency detector to an oscillator**”, “a phase demodulator having an input port for **receiving unmodified the modulated RF signal** and having an output port for providing a phase information signal” and “a comparator having a first input port for receiving the phase information signal and having an output port for outputting an error signal.”

Independent Claim 26, as amended, requires and positively recites, a radio frequency (RF) modulator comprising: “a phase-lock-loop (PLL) including a loop filter and receiving as an input signal a modulation signal and producing as an output signal a modulated RF signal”, “first circuitry for **receiving unmodified the**

modulated RF signal and outputting an error signal” and “second_circuitry responsive to said error signal for controlling the amplitude of the modulation signal”.

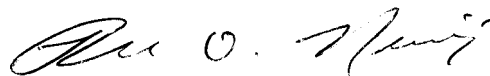
In contrast, Parniere discloses an integrator (Fig. 2 elements 10, 11, 12, col. 4, lines 1-3) coupling resistor 14 to VCO 9 – NOT “... a **loop filter coupling a phase/frequency detector to an oscillator**”, as required by Claim 21. Similarly, Parniere clearly shows in Figure 1 that the signal output by phase lock loop 2 is “unmodulated” at the point it is input to a first input of demodulator 3. The “modulated” signal is supplied to a second input of demodulator 3 from an output of VCO 5 (col. 3, lines 24-28). As such, Figure 1 of Parniere fails to teach or suggest, “a phase-lock-loop (PLL) loop **producing as an output signal a modulated RF signal**”, as required by Claims 21 and 26. The 35 U.S.C. 102(b) rejection of Claims 21 and 26 over Parniere is improper and must be withdrawn since each and every element as set forth in Claims 21 and 26 cannot be found, either expressly or inherently described, in a single prior art reference, as is required by law.

Claims 27 and 28 depend (directly or indirectly) from Claim 26 and are allowable for the same reasons set forth above in support of the allowance of Claim 26.

An amendment after a final rejection should be entered when it will place the case either in condition for allowance or in better form for appeal. 37 C.F.R. 1.116; MPEP 714.12. This amendment places the case in condition for allowance. Even were the amendment not to place the case in condition for allowance, the amendment should be entered since it places the case in better form for appeal.

Claims 1-9 and 22-25 stand allowed. Claims 21 and 26-31 stand allowable over the references of record. Applicants respectfully request allowance of the application as the earliest possible date.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Ron O. Neerings".

/ Ronald O. Neerings /
Reg. No. 34,227
Attorney for Applicants

TEXAS INSTRUMENTS INCORPORATED
P.O. BOX 655474, M/S 3999
Dallas, Texas 75265
Phone: 972/917-5299
Fax: 972/917-4418